

## LIP PACKAGE

### 5 Technical Field

The present invention relates to a lip package for accommodating a liquid cosmetic, and more particularly, to a lip package for dispensing a desired amount of a flowable liquid cosmetic such as lip gloss, wherein upon pressing a button formed on the exterior of the container, an actuating member disposed within the container raises a piston to dispense a predetermined amount of the liquid cosmetic contained in the container, thereby improving convenience of use and enabling the use thereof with one hand due to the button type structure.

### 15 Background Art

Generally, lip glosses are flowable liquid cosmetics used for preventing damage to lips, maintaining desired colors and glossiness of the lips and obtaining healthy conditions and beauty effects of the lips.

20 A lip package for accommodating such a lip gloss comprises a cosmetic brush rod consisting of a cylindrical rod part formed integrally with or coupled to a grip and a brush part fixedly inserted into a lower end of the rod part, and a container body with liquid lip gloss accommodated therein, as shown in Fig. 11.

At this time, the container has a mouth through which only a minimal amount of the liquid lip gloss is brought into contact with outside ambient air. Accordingly, the rod part is formed to be elongated such that upon insertion thereof into the container, a lower

end of the brush part fixedly inserted into the rod part is in contact with a bottom surface of the container, and to have a diameter such that it can enter and be withdrawn from the container through the container mouth. When the brush part of the brush rod is smeared with the liquid lip gloss due to repeated vertical movement of the brush rod, the brush rod  
5 is withdrawn from the container and then used for applying the lip gloss to the desired region of the human body.

However, since this lip package is constructed such that the brush rod with the brush part fixed thereto is withdrawn from the container body and then used, there is a problem in that if a great amount of the liquid lip gloss is accommodated in the container  
10 body, the rod part as well as the brush part become smeared with an excessive amount of lip gloss, thereby causing one's lip and even the skin therearound to be smeared with liquid lip gloss.

Further, since the brush part of the brush rod should be smeared with the liquid lip gloss whenever the lip gloss is used, the brush rod should be often engaged with and  
15 disengaged from the container. At this time, there is a problem in that since bristles of the brush part often come into contact with the mouth of the container, the bristles may be curved outwardly or twisted, or come out. Moreover, since the bristles quickly harden when they are exposed to the atmosphere for a long time, there is a problem of inconvenience of use due to the hardened brush part and the like.

20 To solve the aforementioned problems, as shown in Fig. 12, Korean Patent Laid-Open Publication No. 10-2003-0015539 (Application No. 10-2001-0049313) entitled "Container for liquid type lip pencil" discloses a container comprising a container body 110 for accommodating a lipstick liquid 100; a tip 120 rotatably coupled to an upper portion of the container body, and a lid 130; a brush body 140 and a brush B that vertically  
25 come out or are retracted in response to rotation of the tip 120; a lower knob 150 rotatably coupled to a lower portion of the container body 110; an inner screw 160 operated in

response to rotation of the lower knob 150; a screw bar 170 with a piston 171 at a top end thereof vertically moved by the inner screw 160; and a tube 180 installed to allow the liquid in the container body to reach a lower end of the brush according to the leading of the piston 171. A circumferential ridge 113 of the lower knob 150 is engaged with a circumferential groove at the lower portion of the container body 110 so that the lower knob 150 can be rotated. As the lower knob 150 is rotated, protrusions 154 at an upper circumference of the lower knob ride over protrusions 164 of the inner screw 160 to generate click sounds and female threads 152 of the lower knob 150 are simultaneously engaged with threads of the screw bar 170 to rotate and move the screw bar by a predetermined pitch. The piston 171 coupled to the top end of the screw bar 170 urges the liquid 100 accommodated in the container body 110, and the lipstick liquid passes through the tube 180 and is then absorbed by the brush. In such a manner, lipstick liquid is hermetically accommodated in the container and gradually dispensed in response to the rotation of the lower knob 150.

However, to apply make-up using the container for such a liquid type lip pencil, the container body 110 should be grasped by one hand and the lower knob 150 should be grasped and rotated by the other hand. That is, since the both hands should be used, there is a problem of inconvenience upon applying make-up while looking in a portable mirror or the like.

The lid 130 is in a coupled state when the container for a liquid type lip pencil is not in use. However, since the lower knob 150 can be rotated even when the lid 130 is coupled to the container body 110, there is a risk of delivery of the liquid, which leads to a problem in which the interior of a bag with the container stored therein is smeared with the liquid.

Further, since the container for the liquid type lip pencil has the brush having a plurality of bristles that have a predetermined length, there are problems in that the entire

lengths of the bristles should be smeared with the lipstick liquid thus a great amount of the lipstick liquid is consumed, and the lipstick liquid is also rapidly dried.

Moreover, the process of manufacturing the container for the liquid type lip pencil is complicated due to the coupling structure of the lower knob 150 for dispensing the liquid  
5 and the coupling structure for causing the brush body 140 to come out from the container body 110. Since most containers for liquid cosmetics with such a structure are formed to be elongated and slim in terms of aesthetics, there is a disadvantage in that only about 1.5 to 2.0 ml of liquid cosmetics can be accommodated in the container body 110.

#### 10 Disclosure of Invention

The present invention is conceived to solve the aforementioned problems in the prior art. Accordingly, an object of the present invention is to provide a lip package, wherein upon pressing a button formed on an outer peripheral surface of a cylinder, an  
15 actuating member disposed within a container body is operated to raise a piston so that a liquid cosmetic accommodated in the cylinder can be delivered, thereby achieving convenience of use and delivery of the liquid cosmetic with one hand due to the button type structure in a state where the lip package is grasped by the hand, and applying make-up rapidly and conveniently even with one hand.

20 Another object of the present invention is to provide a lip package with a locking function by which a button cannot be operated when a lid is coupled to a container body.

A further object of the present invention is to provide a lip package that can be more easily used due to a delivery member for delivering a liquid cosmetic, which is in the form of a general lipstick.

25 A still further object of the present invention is to provide a lip package, wherein a porous absorption member for receiving a liquid cosmetic is fitted over a delivery member,

thereby more easily applying the liquid cosmetic to the skin.

A still further object of the present invention is to provide a lip package, wherein an inner structure for delivering a liquid cosmetic is simply constructed to accommodate a great amount of the liquid cosmetic.

5        According to the present invention for achieving the objects, there is provided a lip package, comprising a container body with a push button protruding from an outer circumferential surface thereof; a cylinder coupled to the container body, for containing a liquid cosmetic; a delivery member coupled to the cylinder and having a top surface formed with a plurality of delivery holes; a piston that has the same shape and size as a  
10 cross section of the cylinder and is raised along an inner circumferential surface of the cylinder to pressurize the liquid cosmetic; and an actuating member that is accommodated within the container body and vertically raises the piston in response to a push operation of the push button to deliver the liquid cosmetic through the delivery member.

The lip package may further comprise a lid detachably coupled to an outer  
15 circumferential surface of the cylinder to close the delivery member. The push button may protrude from the outer circumferential surface of the container body so that upon coupling of the lid to the outer circumferential surface of the cylinder, an end of the lid can be fitted into a fixing recess of the push button to fix the push button.

The top surface of the delivery member may be formed to be inclined with respect  
20 to a cross section of the cylinder and have a plurality of delivery holes therein.

The lip package may further comprise an absorbing member, including a sponge, for covering the top surface of the delivery member.

The actuating member may comprise a nut plate to be rotated in response to the push operation of the push button; and a screw bar that is threadly engaged with the nut  
25 plate and raised in response to the rotation of the nut plate, whereby the piston coupled to the screw bar may be raised in response to the rising of the screw bar.

The actuating member may comprise a cam vertically raised in response to the push operation of the push button; and a screw bar that is engaged with the cam through coupling of corresponding convex and concave portions and raised together the cam by a distance through which the cam is raised, whereby the piston coupled to the screw bar may  
5 be raised in response to the rising of the screw bar.

The push button may comprise a button portion outwardly protruding through a through-hole of the container body; and a moving portion extending from a side of the button portion and fixed within the container body. Both sidewalls of the moving portion are formed with guide rails having a level difference for operating the actuating member,  
10 and distal end surfaces of the sidewalls are formed with coupling recesses to which an elastic member is coupled to allow the push button to be horizontally moved. Coupling protrusions of the cam may be inserted into the guide rails of the push button so that the cam can be vertically raised in response to horizontal movement of the guide rails. The screw bar may be vertically raised in response to the vertical rising of the cam.

15 The actuating member may further comprise a supporting member placed below the cam and coupled to the screw bar in a ratchet manner to support the vertical rising of the screw bar.

#### Advantageous Effect

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The lip package of the present invention comprises a push button protruding outside of a container body, an actuating member operated by pressing the push button, a piston vertically raised by the actuating member, and a delivery member coupled to a cylinder to deliver a liquid cosmetic. When a user presses the push button, the liquid  
25 cosmetic contained in the cylinder is delivered in a predetermined amount, resulting in easy use thereof. Further, since the user can grasp the container body with one hand and

press the push button with a finger of the hand grasping the container body, the user can apply make-up using only one hand. Thus, there is provided a more convenient lip package.

Further, since the push button protruding outside of the cylinder is formed with the fixing recess, and upon coupling of the lid to the cylinder, the lid is fitted into the fixing recess of the push button to fix the push button, the lid performs a locking function when the lid is coupled to the cylinder after applying make-up. Thus, there is provided a lip package having no risk of leakage of the liquid cosmetic to the outside.

Moreover, since the top surface of the delivery member through which the liquid cosmetic is delivered to the outside has an inclined surface similarly to a top surface of a general solid lip stick, there is provided a lip package that enables much easier application of the liquid cosmetic to the skin.

Furthermore, since the soft absorbing member with high absorbency is coupled to the top surface of the delivery member and the liquid cosmetic is absorbed by the absorbing member, there is provided a lip package that enables much effective application of the liquid cosmetic to the skin and has a superior feel of the applicator to the skin.

In addition, since the cylinder and the lid are formed similarly to those of a general solid lip stick in size and shape and thus have large inner spaces, there is provided a lip package capable of containing a great amount of liquid cosmetic.

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#### Brief Description of Drawings

Fig. 1 is a perspective view showing a lip package according to a first embodiment of the present invention.

Fig. 2 is an exploded perspective view of the lip package of Fig. 1.

Figs. 3 and 4 are sectional views illustrating operating states of the lip package

according to the first embodiment.

Fig. 5 is a sectional view showing a state where a lid is coupled to the lip package of the present invention.

Fig. 6 is a perspective view showing the addition of an absorption member to the lip package of Fig. 1.

Fig. 7 is an exploded perspective view showing a lip package according to a second embodiment of the present invention.

Figs. 8, 9 and 10 are sectional views illustrating operating states of the lip package according to the second embodiment.

Figs. 11 and 12 are perspective views showing conventional lip packages.

#### Best Mode for Carrying out the Invention

Hereinafter, a lip package of the present invention for specifically achieving the objects will be described with reference to the accompanying drawings. Particularly, liquid lip gloss is employed as a liquid cosmetic in embodiments of the present invention.

Fig. 1 is a perspective view showing a lip package according to a first embodiment of the present invention, and Fig. 2 is an exploded perspective view showing a state where components of the lip package according to the embodiment shown in Fig. 1 are disassembled. In the lip package of this embodiment, a delivery member 2, a piston 3, a push button 4, an actuating member 6 and a lower cap 5 are received in a container body 1, and liquid lip gloss 9 (see Figs. 3 and 4) is contained in a cylinder 11 coupled to the container body 1. Here, although the container body 1 and the cylinder 11 are formed integrally with each other, they will be described separately in view of features of their uses since the container body 1 receives actuating components therein and the cylinder 11 contains the liquid lip gloss 9 therein.



The container body 1 defines a space for accommodating the actuating components for delivering the liquid lip gloss 9. The cylinder 11 for containing the liquid lip gloss 9 is coupled to an upper portion of the container body 1, and the actuating components for upwardly delivering the liquid lip gloss 9 are accommodated within a lower portion of the container body 1 below the cylinder 11. Here, since an outer circumferential surface of the cylinder 11 has a diameter smaller than that of an outer circumferential surface of the container body 1, a stepped portion 16 is formed at a junction between the cylinder 11 and the container body 1.

The cylinder 11 defines a space for containing the liquid lip gloss 9. A neck portion 13 that is a passage through the liquid lip gloss 9 is delivered is formed inside of a rim 12 of the cylinder 11. The neck portion 13 is formed to have a diameter smaller than that of the rim 12. Thus, a coupling groove 14 with a predetermined width and depth is formed between the rim 12 and the neck portion 13 so that the delivery member 2 to be described later can be fitted thereinto. The lower portion of the container body 1 is formed with an opening 17 through which the actuating member 6 and the lower cap 5 are coupled to the container body 1.

Further, a through-hole 15 with a predetermined size is formed at a side of the cylinder 11 so that a button portion 41 of the push button 4 to be described later can be engaged with the through-hole 15. More specifically, the through-hole 15 is formed at a portion of the container body 1 where the stepped portion 16 is formed.

The diameter of an inner circumferential surface of a lid 7 is identical with that of the outer circumferential surface of the cylinder 11. The lid is fitted over the upper portion of the container body 1 and then lowered toward and caught by the stepped portion 16 defining a boundary between the cylinder 11 and the container body 1 so that it can be integrated with the cylinder 11.

The delivery member 2 is a means for delivering the liquid lip gloss 9 contained in

the cylinder 11 to the outside through the neck portion 13. A lower portion of the delivery member 2 is open to communicate with the neck portion 13, and a top surface 24 of the delivery member is formed with a plurality of delivery holes 25. A protruding flange 21 to be seated on the rim 12 of the cylinder 11 is formed around an outer circumferential surface of the delivery member. A fitting portion 22 with a width and length corresponding to the width and depth of the coupling groove 14 extends from a lower portion of the flange 21 so that it can be fitted into and fixedly engaged with the coupling groove 14 of the cylinder 11.

Further, a recess 23 connected to the outer circumferential surface of the delivery member 2 extending downwardly from the top surface 24 is formed inside of the flange 21, so that a porous absorbing member 8 (see Fig. 6) with high absorbency such as a sponge can be caused to cover the top surface 24 and to have a distal end thereof fitted into the recess 23.

Preferably, the top surface 24 is formed to be slanted similarly to a general solid lipstick, to take the shape of a flat circle, or to be tapered toward the center thereof.

The piston 3 is a means for urging the liquid lip gloss 9 contained in the cylinder 11 toward the delivery member 2. The piston 3 is in the form of a disk with a certain thickness. To prevent the liquid lip gloss 9 from leaking downwardly, the piston 3 is formed to have the same shape and size as a cross section of the inner circumference of the cylinder 11. The center of the bottom of the piston 3 is formed with a fitting recess 31 into which a screw bar 60 of the actuating member 6 for raising the piston 3 is fitted. Moreover, the piston 3 is made of silicone or a resilient synthetic resin so that when the piston 3 is disposed within the cylinder 11, the piston 3 is press-fitted into the cylinder 11 and fully hermetically seals the interior of the cylinder 11 due to properties of the material of the piston. Thus, the liquid lip gloss 9 is prevented from flowing downwardly of the cylinder 11. Since the piston 3 can move due to the properties of the material thereof

when an external force is applied thereto, it is raised while urging the liquid lip gloss 9.

The push button 4 is a means for transmitting an external force to the actuating member 6 to raise the piston 3. The push button 4 comprises the button portion 41 mounted in the through-hole 15 of the cylinder 11 to transmit the external force, and an  
5 operating portion 46 fixed attached to the inner circumferential surface of the container body 1 and coupled to the button portion 41 so as to rotate a nut plate 70 of the actuating member 6.

The button portion 41 comprises a pressing section 42 with a predetermined size such that a user can press thereon, a connection section 43 horizontally extending from a  
10 lower end of the pressing section 42 rearward, and a coupling section 44 vertically upwardly extending from a distal end of the connection section 43. The coupling section 44 is fixedly coupled to the operating portion 46, and a lower surface of the connection section 43 is seated on a lower portion of the through-hole 15, so that the pressing portion 42 can move in a fore and aft direction. Here, the pressing section 42 is sized to be  
15 smaller than the through-hole 15 such that it can freely move within the through-hole 15 in the fore and aft direction, while the coupling section 44 is sized to be larger than the through-hole 15 such that the coupling section 44 cannot come out.

The operating portion 46 is formed to have a circumferential length larger than the circumference of the container body 1 such that it can have a slight surplus length while  
20 covering the inner circumferential surface of the container body 1. A resilient projection 48 of the operating portion 46 is formed to take the shape of a flat panel with a predetermined length and thickness to be fitted between adjacent teeth 73 formed on the nut plate 70 of the operating member 6. The operating portion 46 will be described below by dividing it into a bonding surface 47 to be bonded to the inner circumferential surface of  
25 the container body 1, a non-bonding surface 47' coupled to the button portion 41, and the resilient projection 48.

When the bonding surface 47 is fixedly bonded to cover the remainder of the inner circumferential surface of the container body 1 except the through-hole 15, the non-bonding surface 47' extending from the bonding surface 47 is placed at the through-hole 15. The coupling section 44 of the button portion 41 inserted into the container body 1 through the through-hole 15 is bonded to and integrated with the non-bonding surface 47'. Since the resilient projection 48 extending from the non-bonding surface 47' is formed to be inwardly curved, the resilient projection 48 is in contact with the teeth 73 of the actuating member 6.

Therefore, when an external force is applied to the button portion 41, the connection section 43 of the button portion 41 is pushed into the through-hole 15, and at the same time, the non-bonding surface 47' of the operating portion 46 integrated with the coupling section 44 of the button portion 41 moves inwardly or rearwardly. Then, the resilient projection 48 extending from the non-bonding surface 47' pushes one of the teeth 73 of the actuating member 6 and angular positions of the teeth 73 are changed. When the external force is removed, the button portion 41 returns to its original position and the operating portion 46 is also restored to its original state due to its elasticity. Accordingly, the resilient projection 48 comes into contact with another tooth adjacent the tooth 73.

Although the button portion 41 and the operating portion 46 are formed separately from each other, it is possible to form them integrally.

Further, when the lid 7 is coupled to the container body 1 in a state where the button portion 41 of the push button 4 has been installed in the container body 1, the lid 7 is lowered while being slid on the outer circumferential surface of the container body 1 and then seated in the connection section 43 of the button portion 41 installed in the through-hole 15. That is, since the coupling section 44 of the button portion 41 is placed on the inner circumferential surface of the container body 1 through the through-hole 15, the pressing section 42 of the button portion 41 is placed outside of the container body 1, and

the connection section 43 for connecting the pressing section 42 to the coupling section 44 is seated on the lower portion of the through-hole, a lower end of the lid 7 is seated in a fixing recess 45 at the connection section 43, whereby the lid is coupled to the container body 1. Therefore, the push button 4 is in a fixed state where it cannot be operated due to the lid 7.

The operating member 6 is a means for raising the piston 3 while being rotated by means of the operation of the push button 4. The operating member 6 comprises the nut plate 70 rotated by the resilient projection 48 of the push button 4, the screw bar 60 vertically raised through thread engagement with the nut plate 70 to raise the piston 3, an elastically supporting ring 80 to which the nut plate 70 is coupled in a ratchet manner so that it can be rotated by a predetermined pitch only in one direction, and an elastic member 90 for supporting the elastically supporting ring 80 to maintain the contact of the elastically supporting ring 80 with the nut plate 70.

The screw bar 60 is formed to take the shape of an elongated rod and has an outer circumferential surface formed with threads 61 that will be engaged with threads 75 formed in a central bore 74 of the nut plate 70. An upper end of the screw bar is fixedly fitted into the fitting recess 31 of the piston 3. Further, at least one guide groove 62 with a predetermined depth is longitudinally formed throughout an entire length of the screw bar 60 on an outer circumferential surface thereof.

A disk 71 of the nut plate 70 is formed to have a diameter smaller than that of the inner circumference of the container body 1 so that it can be rotated within the lower portion of the container body 1. Here, the diameter of the disk 71 is determined such that the disk is caught by the operating portion 46 fixed to the container body 1 and thus cannot be raised beyond the operating portion. A gear shaft 72 protruding upwardly from the center of the disk 71 is formed to have a predetermined length such that the resilient projection 48 of the operating portion 46 comes into contact with the gear shaft. An

entire outer circumferential surface of the gear shaft 72 is formed with the vertically protruding teeth 73 that are sized to correspond to the thickness of the resilient projection 48. Further, the central bore 74 is longitudinally formed through the nut plate 70 at the center of the nut plate 70, i.e. the center of the disk 71 and the gear shaft 72, so that the screw bar 60 can be inserted into the central bore. An inner circumferential surface of the central bore 74 is formed with the threads 75 corresponding to the threads 61 formed on the outer circumferential surface of the screw bar 60. Thus, when the nut plate 70 is rotated after the screw bar 60 has been inserted into the central bore 74 of the nut plate 70, the screw bar 60 is vertically upwardly raised through the thread engagement thereof with the threads 75 formed in the central bore 74.

Moreover, a lower surface of the disk 71 is formed with a plurality of ratchet teeth 76 radially around the central bore 74 and at a predetermined interval. Since each of the ratchet teeth 76 is in the form of a right-angled triangle, the nut plate 70 can be rotated only in one direction. The ratchet teeth 76 are formed at the predetermined interval corresponding to a certain pitch, so that when the nut plate 70 is rotated in a state where the disk 71 is assembled with the elastically supporting ring 80 to be described later, the screw bar 60 is raised (refer to operating states shown in Figs. 3 and 4).

The elastically supporting ring 80 is formed to take the shape of a cylinder with open top and bottom faces and to have a diameter slightly smaller than that of the disk 71 so that the elastically supporting ring 80 can be inserted into a lower portion of the disk 71 of the nut plate 70 and then coupled in a ratchet manner thereto. A circumferential portion of the upper face of the elastically supporting ring 80 is formed with at least one ratchet pawl 81 cooperating with the ratchet teeth 76 of the nut plate 70. When the nut plate 70 is rotated after the elastically supporting ring 80 has been inserted into the lower portion of the disk 71 of the nut plate 70, the nut plate 70 can be rotated only in one direction due to the cooperating configuration of the ratchet teeth 76 and the ratchet pawl

81. Moreover, at least one ridge 82 is formed to protrude vertically outwardly from an outer circumferential surface of the elastically supporting ring 80. When the elastically supporting ring 80 is inserted into a seating recess 55 of the lower cap 5, the ridge 82 of the elastically supporting ring 80 is fitted into a supporting groove 57 formed on an inner circumferential surface of a cylindrical rod 56 of the lower cap 5 so that the elastically supporting ring 80 can be in a fixed state not to be interlocked with the rotation of the nut plate 70.

The elastic member 90 is formed of a spring with high elasticity and serves as a means for supporting the elastically supporting ring 80 and the nut plate 7. The elastic member applies an elastic force to the lower portion of the elastically supporting ring 80 so that the nut plate 70 coupled in a ratchet manner to the elastically supporting ring 80 seated in the seating recess 55 of the lower cap 5 can be easily rotated in place.

The lower cap 5 comprises a bottom surface 51 for closing the lower portion of the container body 1 with the opening 17 formed therein, the cylindrical rod 56 upwardly extending such that the bottom surface 51 can be coupled to the container body 1 through the opening 17, and a spline 52 upwardly extending from the center of the bottom surface 51 to support the screw bar 60 of the actuating member 6 in such a manner that the screw bar can be vertically raised. Here, the seating recess 55 into which the elastically supporting ring 80 and the elastic member 90 are fitted is defined between the cylindrical rod 56 and the spline 52. The vertical lengths of the cylindrical rod 56 and the spline 52 are determined to receive the coupled elastic member 90 and elastically supporting ring 80 as a whole.

Further, at least one supporting groove 57 is vertically formed on the inner circumferential surface of the cylindrical rod 56 so that when the elastically supporting ring 80 is inserted into the seating recess 55, the ridge 82 of the elastically supporting ring 80 is fitted into the supporting groove 57. Thus, the elastically supporting ring 80 can be

vertically moved due to the elastic member 90 but prevented from being rotated. The spline 52 is formed with an inner bore 53 into which the screw bar 60 is fitted. An inner circumferential surface of the inner bore 53 is vertically formed with a guide protrusion 54 along the entire length of the inner circumferential surface to correspond to the guide groove 62 of the screw bar 60. Accordingly, when the screw bar 60 is inserted into the inner bore 53 of the spline 52, it is inserted therein while the guide groove 62 of the screw bar 60 is fitted over the guide protrusion 54 of the spline 52. Thus, the screw bar 60 can be vertically raised but cannot be rotated.

In the lip package according to the first embodiment of the present invention constructed as above, the delivery member 2 is coupled to the upper portion of the cylinder 11, and the piston 3 with the screw bar 60 fixed thereto is installed within the container body 1 coupled to the cylinder 11. The operating portion 46 and the button portion 41 are installed inside and outside of the cylinder 11 with respect to the through-hole 15, respectively. The nut plate 70 is rotatably installed below the operating portion 46. The resilient projection 48 of the operating portion 46 is in contact with the gear shaft 72 of the nut plate 70, the screw bar 60 is screwed into the central bore 74 of the nut plate 70, and the elastically supporting ring 80 and the elastic member 90 are sequentially assembled into the lower portion of the nut plate 70. At this time, the elastically supporting ring 80 and the elastic member 90 are contained in the seating recess 55 of the lower cap 5, and the screw bar 60 protruding through the central bore 74 of the nut plate 70 is also fitted into the inner bore 53 of the spline 52 formed in the lower cap 5. The lower cap 5 is press-fitted into the opening 17 of the container body 1.

Next, the operating principle of the lip package according to the present invention constructed as above will be described with reference to Figs. 3 and 4. In the figures, the liquid lip gloss 9 is contained above piston 3 installed within the cylinder 11 of the lip package. For reference, a tooth 73 of the nut plate 70 with which the resilient projection



48 of the push button 4 is in contact before the push button 4 of the lip package is pressed is herein referred to as "A" and another tooth 73 with which the resilient projection 48 of the push button 4 is in contact after the pressing force is removed from the push button 4 of the lip package is herein referred to as "B".

5           In a state where a user grasps the container body 1 with one hand, he/she presses the pressing section 42 of the button portion 41 protruding from a side of the cylinder 11. The connection section 43 connected to the pressing section 42 is pushed into the container body 1 through the through-hole 15, and the coupling section 44 that extends from the connection section 43 and is placed inside of the through-hole 15 and coupled to the non-  
10   bonding surface 47' of the operating portion 46 is moved together with the non-bonding surface 47' toward the interior of the cylinder 11. With the horizontal movement of the non-bonding surface 47' of the operating portion 46, the resilient projection 48 of the operating portion 46 that is in contact with the gear shaft 72 of the nut plate 70 of the actuating member 6 pushes the tooth 73 (A) of the gear shaft 72, thereby rotating the gear  
15   shaft 72. When the force applied to the button portion 41 is removed, the button portion 41 returns to its original position due to an elastic force from the non-bonding surface 47' of the operating portion 46, and the resilient projection 48 comes into contact with the tooth 73 (B) moved in response to the rotation of the gear shaft 72. Here, the screw bar 60 that has been screwed into the central bore 74 of the nut plate 70 is vertically raised  
20   through the thread engagement thereof with the threads 75 of the central bore 74 as the nut plate 70 is rotated, and the piston 3 fixed coupled to the upper end of the screw bar 60 upwardly urges and pressurizes the liquid lip gloss 9. Therefore, the liquid lip gloss 9 is delivered from the top surface 24 of the delivery member 2 through the delivery holes 25 thereof via the neck portion 13 of the cylinder 11.

25           Since the lower surface of the disk 71 of the nut plate 70 is formed with the ratchet teeth 76 at a predetermined pitch and the ratchet pawl 81 is formed on the upper

face of the elastically supporting ring 80 for supporting the lower surface of the disk 71 so that the nut plate 70 and the elastically supporting ring 80 are constructed to be coupled to each other in a ratchet manner, and the elastically supporting ring 80 is supported by the elastic member 90 at the lower portion thereof, the nut plate 70 is rotated by the  
5 predetermined pitch by means of the elastically supporting ring 80 fixedly coupled to the cylindrical rod 56 to raise the screw bar 60 by a predetermined distance. Further, since the screw bar 60 is in a state where it is inserted into the inner bore 53 formed in the spline 52 of the lower cap 5, i.e. in a state where the guide groove 62 of the screw bar 60 is fitted over the guide protrusion 54 of the inner bore 53, the screw bar 60 can be raised or lowered  
10 without rotation.

After use of the liquid lip gloss 9, the lid 7 is coupled to the cylinder 11 to close the cylinder as shown in Fig. 5. The lid 7 is lowered while riding on the outer circumferential surface of the cylinder 11 to reach the stepped portion 16 and to be fitted into the fixing recess 45 of the button portion 41 installed within the through-hole 15  
15 formed at a side of the stepped portion 16. In such a manner, the lid 7 is coupled to the cylinder 11. When the lid 7 is fitted into the fixing recess 45 of the button portion 41, the button portion 41 is in a fixed state where it cannot move in the through-hole 15. That is, a structure like a lock is established. Accordingly, even though an external force is applied to the push button 4, the button portion 41 and the operating portion 46 and the  
20 actuating member 6 and 6a cooperating therewith are not operated, thereby preventing the liquid lip gloss 9 from being delivered to the outside through the delivery member 2.

Furthermore, the delivery member 2 through which the liquid lip gloss 9 is delivered may have the top surface 24 that is in the form of a convex dome or an inclined surface like a general solid lipstick for easier use thereof, or is tapered toward the center  
25 thereof. Preferably, the porous absorbing member 8 with high absorbency such as a sponge is coupled to the top surface 24 of the delivery member 2 as shown in Fig. 6 so that

the liquid lip gloss 9 delivered through the delivery member 2 can permeate into the absorbing member 8. Thus, the feel of the applicator to the lip is good and the liquid lip gloss 9 absorbed by the absorbing member 8 can be more easily applied to the lip.

Moreover, since the cylinder 11 and the lid 7 are formed similarly to a lipstick  
5 container for accommodating a solid lip stick in size and shape, a large inner space can be obtained. Thus, the cylinder 11 can contain about 3.0 ml of liquid lip gloss 9 therein.

Fig. 7 is an exploded perspective view showing a lip package according to a second embodiment of the present invention. The lip package according to the second embodiment of the present invention comprises a container body 1 for accommodating a  
10 delivery member 2, a piston 3, a push button 4a, an actuating member 6a and a lower cap 5a, and a cylinder 11 for containing liquid lip gloss 9 coupled to the container body.

Here, since the container body 1, a lid 7, the cylinder 11, the delivery member 2 and the piston 3 have the same configurations as those of the first embodiment of the present invention described above, detailed descriptions thereof will be omitted.

15 The push button 4a is a means for transmitting an external force to the actuating member 6a to raise the piston 3. The push button 4a comprises the button portion 41a outwardly protruding through a through-hole 15 of the cylinder 11, and a moving portion 46a that extends from an end of the button portion 41a and is placed within the container body 1 to operate the actuating member 6a to be described later.

20 The button portion 41a comprises a pressing section 42a protruding outwardly of the container body 1 through the through-hole 15 of the cylinder 11, a connection section 43a horizontally extending from a lower end of the pressing section 42a to the inside of the cylinder 11, and a coupling section (not designated by a reference numeral) upwardly extending vertically from a distal end of the connection section 43a. The coupling section  
25 is coupled to the moving portion 46a. Here, the pressing section 42a and the coupling section are sized to be smaller than the through-hole 15 such that they can be easily moved

within or inserted into the through-hole 15.

The moving portion 46a is formed to have a "⊃"-shaped cross section. Both sidewalls 47a of the moving portion 46a are formed with guide rails 48a for operating a cam 70a of the actuating member 6a to be described later. Distal end surfaces of the both  
5 sidewalls 47a are formed with coupling recesses 49a to which an elastic member 90a for applying an elastic force to the push button 4a is coupled. Therefore, the push button 4a can be horizontally moved due to an external force and then restored to its original state by means of the elastic member 90a. Further, the guide rails 48a have a predetermined horizontal length such that the cam 70a of the actuating member 6a is moved according to  
10 the movement of the push button 4a. Each of the guide rails 48a is formed such that one end S is at a level lower than that of the other end E.

The actuating member 6a is a means for raising the piston 3 by means of the operation of the push button 4a, and comprises the cam 70a that is coupled to the push button 4a and movable according to the movement of the push button, a screw bar 60a that  
15 can be vertically raised by the means of the operation of the cam 70a to raise the piston 3, a supporting member 80a for supporting the weight of the screw bar 60a, and the elastic member 90a for applying the elastic force to the push button 4a.

The screw bar 60a is inserted into the cam 70a to be raised by means of the operation of the cam 70a. The screw bar 60a is formed to take the shape of a rectangular  
20 rod of which one of four sides is formed with a plurality of teeth 61a at a predetermined pitch over the entire length thereof. Opposite both sides of remaining three sides of the screw bar are longitudinally formed with guide ridges 62a, respectively. The teeth 61a are teeth in the form of a right-angled triangle with an inclined surface only in one direction.

25 The cam 70a is coupled to the push button 4a and the screw bar 60a to raise the screw bar 60a according to the horizontal movement of the push button 4a. The cam 70a

is in the form of a tube with a central bore 74a of a predetermined size such that the screw bar 60a can be inserted thereinto. Outer surfaces of opposite both sidewalls of the cam 70a are formed with coupling protrusions 77a to be coupled to the guide rails 48a of the push button 4a. Inner surfaces of the both sidewalls with the coupling protrusions 77a  
5 formed thereon are formed with guide grooves 78a into which the guide ridges 62a of the screw bar 60a are fitted. An inner surface of another sidewall of the cam is formed with a protruding resilient pawl 79a that comes into contact with one of the teeth 61a of the screw bar 60a when the screw bar 60a has been coupled to the central bore 74a of the cam 70a. Thus, the cam can be coupled to the screw bar 60a in a ratchet manner.

10 The supporting member 80a is seated in a cylindrical hollow rod 56a of the lower cap 5a, which will be described later, to support the push button 4a, the cam 70a, and the teeth 61a of the screw bar 60a. The supporting member 80a is formed to have a diameter identical with that of an inner circumference of the container body 1, and has a top surface 83a for supporting lower portions of the push button 4a and the cam 70a and an open  
15 bottom face. The top surface 83a is formed with a central hole 84a into which the screw bar 60a is inserted. A supporting pawl 86a protrudes from a portion of a lower end of the supporting member 80a toward the interior of the supporting member 80a to support the teeth 61a of the screw bar 60a, thereby being engaged with one of the teeth 61a of the screw bar 60a in a ratchet manner. Further, connection holes 85a into which the elastic  
20 member 90a is fitted are formed at predetermined positions on the top surface 83a.

The elastic member 90a is a means for applying the elastic force to the push button 4a. The elastic member is in a fixed state where a lower end thereof is fitted into a fixing recess 59a of the lower cap 5a and upper ends thereof are fitted into the coupling recesses 49a of the moving portion 46a of the push button 4a.

25 The lower cap 5a comprises a bottom surface 51a for closing a lower portion of the container body 1 with an opening 17 formed therein, and the cylindrical hollow rod 56a

upwardly extending such that the bottom surface 51a is coupled to the container body 1 through the opening 17. The fixing recess 59a into which the lower end of the elastic member 90a is fitted is formed in a protrusion 58a protruding from the bottom surface 51a with a predetermined gap with respect to an inner circumferential surface of the cylindrical hollow rod 56a.

Therefore, in the lip package according to the second embodiment of the present invention constructed as above, the delivery member 2 is coupled to an upper portion of the cylinder 11, and the piston 3 with the screw bar 60a fixed thereto is installed within the cylinder 11. The moving portion 46a of the push button 4a and the button portion 41a are installed inside and outside of the container body 1 with respect to the through-hole 15 of the cylinder 11, respectively. The coupling protrusions 77a of the cam 70a of the actuating member 6a are fitted into and coupled to the guide rails 48a of the moving portion 46a. Below the cam 70a, the supporting member 80a is seated in and assembled into the cylindrical hollow rod 56a of the lower cap 5a. Here, the screw bar 60a is inserted into the central bore 74a of the cam 70a and then into the central hole 84a of the supporting member 80a so that the teeth 61a of the screw bar 60a are engaged with the supporting pawl 86a of the supporting member 80a in a ratchet manner. The upper ends of the elastic member 90a with the lower end fitted into the fixing recess 59a of the lower cap 5a protrude through the connection holes 85a of the supporting member 80a and are then inserted into the coupling recesses 49a of the moving portion 46a. At this time, one of the teeth 61a of the screw bar 60a is in contact with the pawl 79a of the cam 70a, and the supporting member 80a is installed below the cam 70a such that the screw bar 60a is inserted into the central bore 84a of the supporting member 80a. Further, since the guide ridges 62a of the screw bar 60a are fitted into the guide grooves 78a of the cam 70a, the screw bar 60a can be vertically raised in a stable state.

Next, the operating principle of the lip package according to the second

embodiment of the present invention constructed as above will be described. Here, the liquid lip gloss 9 is contained within the cylinder 11 of the lip package. For reference, a tooth 61a of the screw bar 60a with which the pawl 79a of the cam 79a is in contact before the push button 4a of the lip package is pressed is herein referred to as "C" and another tooth 61a with which the pawl 79a of the cam 79a is in contact after the pressing force is removed from the push button 4a is herein referred to as "D". Further, a tooth 61a of the screw bar 60a with which the supporting pawl 86a of the supporting member 80a is in contact before the push button 4a of the lip package is pressed is herein referred to as "M" and another tooth 61a of the screw bar 60a with which the supporting pawl 86a of the supporting member 80a is in contact after the pressing force is removed from the push button 4a is herein referred to as "N".

Fig. 8 shows a state where an external force is not applied to the push button of the lip package according to the second embodiment of the present invention, i.e. a state where the button portion 41a of the push button 4a protrudes outside of the cylinder 11 through the through-hole 15, the coupling protrusions 77a of the cam 70a of the actuating member 6a coupled to the guide rails 48a of the moving portion 46a of the push button 4a are located at the ends S of the guide rails 48a, the pawl 79a of the cam 70a is caught in the tooth 61a (C) of the screw bar 60a, and the supporting pawl 86a of the supporting member 80a located below the cam 70a is caught in the tooth 61a (M) of the screw bar 60a.

Fig. 9 shows a state where an external force is applied to the push button of the lip package according to the second embodiment of the present invention. In a state where a user grasps the container body 1 with one hand, he/she presses the button portion 41a of the push button 4a protruding from a side of the cylinder 11. The button portion 41a is horizontally moved in the direction of the pressing force, and the moving portion 46a formed integrally with the button portion 41a and placed within the container body 1 is also horizontally moved by the displacement of the button portion 41a while pushing the

elastic member 90a fixed to the moving portion 46a.

Then, with the horizontal movement of the moving portion 46a, the coupling protrusions 77a of the cam 70a come out from the ends S of the guide rails 48a and are located at the other ends E of the guide rails. At this time, since the ends S of the guide rails 48a are formed at a level lower than that of the other ends E thereof, the change in the positions of the coupling protrusions 77a of the cam 70a to the other ends E of the guide rails 48a results in the vertical rising of the cam 70a by the level difference between the ends S and the other ends E of the guide rails 48a, and the vertical rising of the screw bar 60a due to the upward pushing of the tooth 61a (C) of the screw bar 60a by the pawl 79a of the cam 70a. At this time, when the screw bar 60a is vertically raised, the supporting pawl 86a that has supported the tooth 61a (M) of the screw bar comes into contact with the tooth 61a (N) due to the rising of the screw bar 60a and then supports the screw bar 60a.

As shown in Fig. 10, when the pressing force is removed from the push button 4a, the button portion 41a returns to its original position by means of the elastic force of the elastic member 90a, and the coupling protrusions 77a of the cam 70a are also moved to the ends S of the guide rails 48a. At this time, since the supporting pawl 86a of the supporting member 80a is in contact with the tooth 61a (N) of the screw bar 60a to support the screw bar 60a by means of the operation shown in Fig. 9, the pawl 79a of the cam 70a is slid on an inclined surface of the tooth 61a and caught in the tooth 61a (D) of the screw bar 60a. Further, the pawl 79a of the cam 70a can be more smoothly moved to the tooth 61a (D) of the screw bar 60a due to its own elasticity.

That is, when the force that has been applied to the push button 4a is removed therefrom, the pawl 79a of the cam 70a is moved from the tooth 61a (C) to the tooth 61a (D) of the screw bar 60a, and the supporting pawl 86a of the supporting member 80a is also moved from the tooth 61a (M) to the tooth 61a (N) of the screw bar 60a to support a lower portion of the screw bar 60a.



Therefore, when the screw bar 60a is raised, the piston 3 coupled to the screw bar 60a and installed within the cylinder 11 is also raised to urge the liquid lip gloss 9. Thus, the liquid lip gloss 9 is delivered to the outside through the delivery holes 25 of the delivery member 2 installed at the upper portion of the cylinder 11.

5            Since the button portion 41a of the push button 4a and the lid 7 of the lip package according to the second embodiment of the present invention also have the same coupling structure as those of the lip package according to the first embodiment, the assembly of the lid 7 to the container body 1 when the lip package is not in use causes the lid 7 to be fitted into a fixing recess 45a of the button portion 41a so that the push button 4a cannot be  
10    operated, thereby establishing a locking function.